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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

DESIRE, GREGORY M

ART UNIT	PAPER NUMBER
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2625

DATE MAILED: 07/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/745,572

Applicant(s)

WOLLENWEBER, SCOTT D.

Examiner

Gregory M. Desire

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 14 May 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 December 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. This action is responsive to communication filed 5/14/04.

#### ***Response to Amendment***

2. Applicant's argument in view of 35 U.S.C 103 has been fully considered but they are not persuasive and are thus maintained. See response to arguments below.

#### ***Response to Arguments***

3. Applicant argues (response page 2 lines 26-28) Kosugi fails to suggest that table deflection may be a concern and therefore cannot possibly teach compensating for table sagging. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., table deflection and compensation for table sagging) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

4. Applicant argues (response page 3 lines 21-23) Kosugi does not teach about first and second different imaging configuration that define first and second imaging areas along a translation axis. This argument is not persuasive because Kosugi is not relied upon to meet said limitations. The examiner combines Nutt to disclose dual imaging system (note col. 12 lines 26-30).

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5. Applicant argues (response page 3 lines 23-24) Kosugi fails to teach a compensator for modifying image data for alignment purposes. This argument is not persuasive because the claims recite using relative position to modify data sets prior to imaging. Kosugi uses position data store to adjust arm and bed where the subject is located (data sets) prior to radiograph taken note col. 5 line 51- col. 6 line 5).

6. Applicant argues (response page 3 lines 25-27) Kosugi teaches away from a system where images are aligned by a compensator by teaching that consecutive aligned images can be generated by mechanically aligning components prior to generating images. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., aligned images) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). The claims recite modifying data sets, controller moving bed top and positions modifies data set.

7. Applicant argues (response page 4 lines 2-6) Nutt fails to teach a sensor for sensing misalignment of a table to detectors, a determiner for determining the relative position of a table to a compensator for altering one set of data functions of the relative position. This argument is not persuasive because Nutt is not relied upon to meet said

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limitations. Nutt is secondary teaching showing dual imaging. The mentioned limitations are clearly shown in Kosugi.

8. Applicant argues (response page 4 lines 16-17) there is no teaching in either of Nutt or Kosugi to combine the teachings. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, accuracy would be a motivation to do so, Nutt col. 12 lines 5-15, cite using a dual imaging system overcomes alignment problems and provide good signal to noise ratio.

9. Applicant argues (response page 4 lines 25-28) regarding claim Kosugi does not teach two sensors measure the vertical position of two separate table segments. This argument is not persuasive because it is the position of the examiner Kosugi does teach two sensor measure the vertical position of two separate table segments (note col. 3 lines 39-46 and col. 4 lines 45-47). Lines cite plurality of sensors, which control arm holder that measure vertical position of table segments. The examiner referred to longitude directions to control the table segments.

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-9 and 11-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kosugi (6,334,708) in view of Nutt et al. (6,631,284).

Regarding apparatus and method claims 1 and 12 Kosugi discloses,

At least one sensor for sensing the position of at least one table segment as the table extended from the support and into the imaging area (note fig. 3 block 12 and col. 3 lines 29-47 and col. 4 lines 45-47, position sensor detects position of movable positions, bed moves in various positions).

A determiner for using the position signals to determine the relative position of at least one of the first and second detectors with respect to the table during data acquisition (note col. 5 lines 51-53, memory determines the position of detector).

A compensator using the at least one relative position to modify at least one of the data sets prior to sets being combined to form a unified image (note col. 5 lines 15-17 and 25-30, controller performs adjustment of relative position).

Kosugi is silent disclosing a dual imaging system including a first and second imaging configurations to collect a first and second data sets. However, Nutt discloses dual imaging system including a first and second imaging configurations to collect a first and second data sets (note fig. 2a in connection with col. 12 lines 26-30, shows dual imaging configuration PET scanner first data set CT scanner second data set).

Therefore it would have been obvious to one having ordinary skills in the art to include a dual imaging system in the system of Kosugi as evidenced by Nutt. Kosugi detects positional data of bed and Nutt in the same field of endeavor obtaining more accurate data information (note Nutt col. 10 lines 28-300).

As to apparatus and method claims 19 and 21 Kosugi discloses,

A first sensor for sensing the vertical position of at least a first table segment as the table is extended from the support into the imaging area (note col. 3 lines 35-46, 40-46 and col. 4 lines 45-47, bed top provides a table segment, sensor senses vertical direction F of bed as imaging is performed).

A second sensor for sensing the vertical position of at least a second table segment as the table is extended from the support into the imaging area (note col. 3 lines 45-36, 40-46, and col. 4 lines 45-47, lines cites plurality of sensor controls vertical positions of moving bed top providing table segment).

Regarding claim 2 Kosugi and Nutt discloses,

Wherein the first configuration is a functional configuration for obtaining imaging data corresponding to a dynamic characteristic (Nutt fig 2a 14, PET scanner useful for

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dynamic characteristic) and a second configuration is a static configuration for obtaining data corresponding to a static characteristic (Nutt fig. 2a 12 CT scanner useful for static information).

Regarding apparatus and method claims 3 and 20 Kosugi and Nutt discloses,

Wherein the static configuration (Nutt fig. 2a, 12) is positioned between the support (Nutt fig. 2a table support under table 18) and the functional configuration (Nutt fig. 2a, 14).

Regarding apparatus and method claims 4 and 13 Kosugi and Nutt discloses,

Wherein the sensor is positioned adjacent the functional configuration and opposite the static configuration (note Nutt fig. 2a between 12 and 14 there is a detector positioned adjacent and opposite the configuration);

Regarding apparatus and method claims 5 and 14 Kosugi and Nutt discloses,

Wherein the at least one sensor is a first sensor and the apparatus further includes at least a second sensor that senses the position of at least a second table segment and, wherein, the determiner also uses position signals from the second sensor to determine the relative position (note Kosugi col. 4 lines 40-47). Plurality of sensor, bed top is segment of table.

Regarding apparatus and method claims 6 and 15 Kosugi and Nutt discloses,



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Wherein the second sensor is positioned between the functional and static configuration (note Nutt fig. 2a, shows 2 detectors and positioned between functional and static configuration).

Regarding apparatus and method claims 7 and 16 Kosugi and Nutt discloses,

Wherein the determiner determines the relative positions of each of the functional and static detectors with respect to the table (note col. 5 lines 51-53, memory determines and stores the position of detector of scanner with respect to the bed) and the compensator uses each of the relative positions to modify at least one of the data sets prior to the sets being combined to form a functional/static image (note col. 5 lines 15-17 and 25-30, controller performs adjustment of relative position).

Regarding apparatus and method claims 8 and 17 Kosugi and Nutt discloses,

Wherein the compensator modifies each of the functional and static data sets prior to combining (note Nutt col. 13 lines 8-20, the scaling and reconstruction modifies data set prior to combining).

Regarding apparatus and method claims 9 and 18 Kosugi and Nutt discloses,

Wherein each of the first and second sensor senses the vertical position of the table with respect to a fixed reference point and the position signals indicate the reference point to vertical table position distance (note Kosugi col. 3 lines 35-38, position sensor senses vertical position of the bed).

Regarding claim 11 Kosugi and Nutt discloses,

Wherein the at least one sensor is a first sensor positioned adjacent the system and opposite the support (Nutt fig. 2a sensor opposite the table support) and the apparatus further includes at least a second sensor positioned between the first and second configurations that senses the position of at least a second table segment (note Nutt fig. 2a detector between CT and PET).

3. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kosugi and Nutt in further view of Fujita (5,482,042).

Regarding claim 10 Kosugi and Nutt discloses,

Position sensor, Kosugi and Nutt is silent teaching sensors are selected from a group consisting of laser sensors, ultrasonic sensor, light sensors, optical sensors, magnetic sensors and resistive sensor. However, Fujita teaches a medical imaging apparatus, wherein position sensor is an ultrasonic sensor (note fig. 1 block 22 in connection with col. 4 lines 16-17). Therefore it would have been obvious to one having ordinary skills in the art to include ultrasonic sensor in the system of Kosugi and Nutt as evidenced by Fujita. Kosugi and Nutt teach positional sensor in a medical imaging apparatus and Fujita in the same field of endeavor uses ultrasonic sensor for a more accurate diagnosis of positional relationship among the imaging data obtained (note col. 2 lines 20-35).

***Conclusion***

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory M. Desire whose telephone number is (703) 308-9586. The examiner can normally be reached on M-F (8:30-6:00) Second Monday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on (703) 308-5246. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Gregory M. Desire  
Examiner  
Art Unit 2625

G.D.  
July 21, 2004



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